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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/633,336	08/04/2000	Hiroshi Ueda	Q60276	2028

7590 11/06/2002
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EXAMINER

MAKI, STEVEN D

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 11/06/2002

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/633,336

Applicant(s)

UEDA ET AL.

Examiner

Steven D. Maki

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

1) The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: incorporation of the description of "substantially triangular" (described in claim 1) into the specification. It is suggested to make the following change in the specification: on page 3 four lines from bottom insert --substantially triangular-- before "shape".

2) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3) Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7, it is unclear what additional limitation is being required.

4) Claim 7 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

The subject matter in claim 7 (which depends on claim 1) was added to claim 1 in the amendment to claim 1 filed 8-19-02.

5) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6) **Claims 1, 7-8, 10-12 and 19 are under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (US 4,682,641) in view of Verdier (US 3,457,981) and optionally Sipe (US 2,245,728).**

Watanabe et al discloses a process for manufacturing high lug pneumatic tires comprising providing an unvulcanized tire (green tire) made by successively winding a carcass ply, a belt ply, and a tread rubber on a drum (col. 1 lines 6-17, col. 2 lines 50-52), moving cutters 83, 84 along a predetermined path to cut off (carve) a portion of the tread rubber of the unvulcanized tire 5 to thereby form a quasi pattern of grooves 86 which are substantially complementary to the shaping surface of a vulcanizing mold to be used in a next tire manufacturing process (col. 4 line 64 to col. 5 line 2); and vulcanizing the tire with the shaping surface of the vulcanizing mold matching the quasi pattern of grooves 86 on the tire (col. 6 lines 52-55). As acknowledged by applicant on page 5 of the response filed 8-19-02, "This means that the grooves 86 in the tread surface of the green tire 5 are given a shape complementary to the lug groove ribs that form the shaping surface of the vulcanizing mold." At col. 6 lines 55-61, Watanabe et al explains the benefit of this process as follows: "Since the shaping surface and the quasi pattern of grooves 86 are substantially complementary to each other, any flow of the rubber as it is vulcanized is small. This eliminates any tendency to form recesses in the inner side of the lugs upon the flow of the rubber into the grooves of the mold" (emphasis added). Hence, Watanabe et al substantially discloses the claimed process.

As to claim 1, it would have been obvious to **shape** the carved grooves such that "each of the carved grooves has a substantially triangular shape since:

(a) Watanabe et al teaches cutting (carving) the tread so that the **shape of the carved grooves** is substantially complementary to / matches the shape of the lug grooves,

(b) Verdier teaches shaping lug grooves so that each lug groove has a **V-shape (a triangular shape)** *so as to avoid retention of stones and facilitate their ejection* and optionally

(c) Sipe's teaching to cut (carve grooves) so as to form a **V-shaped groove (triangular shaped groove)** – Sipe specifically teaching using two knives to cut a single groove so that V-shaped groove is formed (page 1 lines 11-17, page 1 line 51 to page 2 line 5).

Furthermore, it would have been obvious to form the carved grooves such that they gradually widen from a tread center side to a tread end and consequently the lugs grooves gradually widen from a tread center side to a tread end in view of Verdier's suggestion to configure lug grooves such that they gradually widen from a tread center side to a tread end.

As to the carved grooves extending in substantially the same direction as the lug grooves, note the above described process of Watanabe et al. In any event, it would have been obvious to carve the unvulcanized tire of Watanabe et al such that the carved grooves are "at positions on a surface of the unvulcanized tire corresponding to the lug grooves such that the carved grooves extend in substantially the same direction as the lug grooves" (emphasis added) since Watanabe et al teaches cutting (carving) a quasi pattern of grooves 86 which are substantially complementary to the shaping

Art Unit: 1733

surface of a vulcanizing mold which is used to vulcanize a tire having high lugs and deep lug grooves so that any flow of the rubber as it is vulcanized is small to thereby eliminate any tendency to form recesses in the inner side of the lugs upon the flow of the rubber into the grooves of the mold; it being additionally noted that Watanabe et al teaches that the quasi pattern grooves match the surface shape of the vulcanizing mold (abstract).

As to claims 8 and 19, it would have been obvious to carry out the carving twice using a cutter in view of Sipe's suggestion to cut (carve) a single groove using a plurality of cutters (knives) to reduce resistance of the rubber to the cutting edge.

As to claims 10-12, the limitations of the volume of the carved groove being 0.4-1.2 times the volume of the lug groove (claim 10), 0.7-1.0 times the volume of the lug groove (claim 11) or 0.5-0.9 times the volume of the lug groove (claim 12) would have been obvious in view of the above noted suggestion from Watanabe et al to form the carved grooves such that they are substantially complementary to the lug grooves or match the lug grooves formed by the mold.

7) Claims 2-6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (US 4,682,641) in view of Verdier (US 3,457,981) and optionally Sipe (US 2,245,728) as applied above and further in view of Clayton (US 4,237,955).

As to claims 2-6 and 9, the limitations therein regarding the configuration of the carved grooves and consequently the configuration of the lug grooves would have been

Art Unit: 1733

obvious in view of (a) Watanabe et al's teaching to form lug grooves from the carved grooves and (b) the various lug grooves shown by Clayton on drawing sheet #8.

8) **Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (US 4,682,641) in view of Verdier (US 3,457,981) and optionally Sipe (US 2,245,728) as applied above and further in view of Sato et al (US 5404925) or Roger (US 4194548).**

As to claims 13-14, it would have been obvious to use a belt member having a relatively low expansion rate (claim 13) such as 3% or less (claim 14) as the belt ply in Watanabe et al since a belt having a relatively low expansion rate such as 3% or less for a pneumatic tire is well known / conventional per se in the tire art as evidenced by Sato et al (col. 4 lines 27-36, especially lines 29-30) and Roger (col. 2 lines 1-32, especially lines 19-20 and 25-27). On page 8 of the response filed 8-19-02, applicant challenged the official notice of "a belt having a relatively low expansion rate such as 3% or less for a pneumatic tire is taken well known / conventional per se in the tire art " made in the last office action. In response to that challenge, the examiner has cited Sato et al and Roger. Citation of Sato et al and Roger et al does not constitute a new ground of rejection. See MPEP 2144.04 ("If the examiner adds a reference to the rejection in the next office action after applicant's rebuttal [applicant's traverse of the well known statement], the newly cited reference, if it is added merely as evidence of the prior well known statement, does not result in a new issue and thus the action can potentially be made final" (emphasis added)) Cf. MPEP 1208.01 ("...where a newly cited reference is added merely as evidence of the prior well known statement made by

the examiner, the citation of the reference ... would not constitute a new ground of rejection ..." (emphasis added))

9) **Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (US 4,682,641) in view of Verdier (US 3,457,981) and optionally Sipe (US 2,245,728) as applied above and further in view of Great Britain '891 (GB 1248891), Japan '509 (JP 4-28509) or Japan '711 (JP 61-3711).**

As to claims 15 and 16, it would have been obvious to use the claimed full mold vulcanization molding machine having upper mold and lower mold in view of (a) Watanabe et al teaching to use a vulcanization mold and (b) the upper mold and lower mold containing "full mold" vulcanization mold apparatus shown by Great Britain '891, Japan '509 or Japan '711.

10) **Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (US 4682641).**

Watanabe et al is discussed above. As to the carved grooves extending in substantially the same direction as the lug grooves, note the above described process of Watanabe et al. In any event, it would have been obvious to carve the unvulcanized tire of Watanabe et al such that the carved grooves are "at positions on a surface of the unvulcanized tire corresponding to the lug grooves such that the carved grooves extend in substantially the same direction as the lug grooves" (emphasis added) since Watanabe et al teaches cutting (carving) a quasi pattern of grooves 86 which are substantially complementary to the shaping surface of a vulcanizing mold which is used to vulcanize a tire having high lugs and deep lug grooves so that any flow of the rubber

Art Unit: 1733

as it is vulcanized is small to thereby eliminate any tendency to form recesses in the inner side of the lugs upon the flow of the rubber into the grooves of the mold; it being additionally noted that Watanabe et al teaches that the quasi pattern grooves match the surface shape of the vulcanizing mold (abstract). As to claim 17, it would have been obvious to form the unvulcanized tread rubber, which is wound on a belt ply (belt member) and a carcass (ply), by extrusion since it is taken as well known / conventional per se in the tire making art to successively wind a carcass ply, belt ply and tread on a drum wherein the tread (a sheet of rubber) is formed by extrusion. It is noted that applicant has not challenged the official notice of "well known / conventional per se in the tire making art to successively wind a carcass ply, belt ply and tread on a drum wherein the tread is formed by extrusion". In particular, applicant has failed to assert novelty per se for "successively winding a carcass ply, belt ply and tread on a drum wherein the tread is formed by extrusion". These steps are used to form a tire. The suggestion to form a tire comes not from the official notice but from Watanabe et al's teaching to form a tire.

Remarks

11) Applicant's arguments with respect to claims 1-16 and 19 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 8-19-02 have been fully considered but they are not persuasive.

Applicant argues that "The triangular grooves facilitate smooth insertion of the lug groove ribs into the carved grooves, when the green tire is being introduced into the

vulcanizing mold.” This argument is not persuasive since claim 1 requires “a green tire having tire components assembled is charged in a mold” *instead of* “The triangular grooves facilitate smooth insertion of the lug groove ribs into the carved grooves, when the green tire is being introduced into the vulcanizing mold.”

Applicant argues that Verdier does not show triangular grooves. The examiner disagrees. Verdier illustrates a triangular groove in figure 4. Indeed, Verdier’s figure 4 groove is more triangular than applicant’s figure 3 groove.

Applicant comments and the examiner agrees that Verdier shows the shape of grooves of a completed tire.

Applicant argues that the shape of grooves of completed grooves has nothing to do with the shape of carved grooves before vulcanization”. Applicant is incorrect since Watanabe et al teaches that the shape of carved grooves before vulcanization is substantially complementary to (in contrast to has nothing to do with) the shape of the grooves of the completed tire.

Applicant’s arguments regarding claims 10-12 are not persuasive since Watanabe et al states “Since the shaping surface and the quasi pattern of grooves 86 are substantially complementary to each other, any flow of the rubber as it is vulcanized is small. This eliminates any tendency to form recesses in the inner side of the lugs upon the flow of the rubber into the grooves of the mold” (emphasis added).

Applicant argues that the carved grooves eliminates the problem of belt wave. The examiner adds that the carved grooves of Watanabe et al eliminate the problem of belt wave. See col. 1 lines 21-27 and col.2 lines 1-5 of Watanabe et al.

12) No claim is allowed.

13) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

14) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is 703-308-2068. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

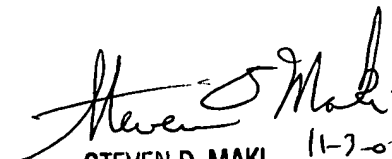
Application/Control Number: 09/633,336

Page 11

Art Unit: 1733

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Steven D. Maki
November 3, 2002


STEVEN D. MAKI 11-3-02
PRIMARY EXAMINER
~~GROUP 1300~~
AU 1733